CLAIMS

1. A process for producing an indole compound of formula (2)

$$(R_3)n$$
 R_2
 R_1
 R_1
 R_1
 R_1

wherein R_1 and R_2 are independently of each other hydrogen atom, an optionally substituted alkyl group, a phenyl group, an alkoxycarbonyl group or an acyl group, R_3 is an optionally substituted alkyl group, a phenyl group, an alkoxy group, a benzyloxy group, an alkoxycarbonyl group, a nitro group or a halogen atom, and n is an integer of 0 to 4, characterized by using carbon monoxide when 2-nitrobenzylcarbony compound of formula (1)

$$(R_3)n \xrightarrow{R_2} R_1$$

$$NO_2$$

$$(1)$$

wherein R₁, R₂, R₃ and n have the same meaning as the above, is reduced in the presence of a catalyst comprising a Group VIII metal of the Periodic Table.

- 2. The process for producing an indole compound according to claim 1, wherein the catalyst comprising a Group VIII metal of the Periodic Table is a metal catalyst selected from an iron catalyst, a ruthenium catalyst, a palladium catalyst, a cobalt catalyst, a rhodium catalyst, a nickel catalyst and a platinum catalyst.
- 3. The process for producing an indole compound according to claim 1, wherein the catalyst comprising a Group VIII metal of the Periodic Table is a metal catalyst selected from an iron catalyst, a ruthenium catalyst, a palladium catalyst and a platinum catalyst.
- 4. The process for producing an indole compound according to claim 1, wherein the catalyst comprising a Group VIII metal of the Periodic Table is an iron or ruthenium complex catalyst in which carbon monoxide is coordinated.

- 5. The process for producing an indole compound according to claim 1, wherein the catalyst comprising a Group VIII metal of the Periodic Table is a palladium catalyst or platinum catalyst in which phosphine type ligand is coordinated.
- 6. The process for producing an indole compound according to claim 1, 2, 3, 4 or 5, wherein R_1 and R_2 are independently of each other hydrogen atom, an optionally substituted alkyl group, an alkoxycarbonyl group or an acyl group, R_3 is an optionally substituted alkyl group or a halogen atom, and n is an integer of 0 to 4,.
- 7. The process for producing an indole compound according to claim 1, 2, 3, 4 or 5, wherein R_1 is methyl group, R_2 is hydrogen atom, an alkoxycarbonyl group or an acyl group, R_3 is a halogen atom, and n is an integer of 0 or 1.
- 8. The process for producing an indole compound according to claim 1, 2, 3, 4 or 5, wherein R_1 is methyl group, R_2 is hydrogen atom, R_3 is fluorine atom, and n is an integer of 0 or 1.